



SEQUENCE LISTING

<110> Bruck, Claudine
Bollen, Alex
Jacobs, Paul
Massaer, Marc

<120> Recombinant Allergen with Reduced
Enzymatic Activity

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<140> 09/554,860

<141> 2000-05-19

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<151> 1998-11-16

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			20					25					30		
Phe	Asn	Lys	Ser	Tyr	Ala	Thr	Phe	Glu	Asp	Glu	Glu	Ala	Ala	Arg	Lys
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Asp	Leu	Arg	Gln	Met	Arg	Thr	Val	Thr	Pro	Ile	Arg	Met	Gln	Gly	Gly
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Cys	Gly	Ser	Ala	Trp	Ala	Phe	Ser	Gly	Val	Ala	Ala	Thr	Glu	Ser	Ala
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Arg	Tyr	Val	Ala	Arg	Glu	Gln	Ser	Cys	Arg	Arg	Pro	Asn	Ala	Gln	Arg
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			20					25						30	
Phe	Asn	Lys	Ser	Tyr	Ala	Thr	Phe	Glu	Asp	Glu	Glu	Ala	Ala	Arg	Lys
		35					40					45			
Asn	Phe	Leu	Glu	Ser	Val	Lys	Tyr	Val	Gln	Ser	Asn	Gly	Gly	Ala	Ile
		50				55					60				
Asn	His	Leu	Ser	Asp	Leu	Ser	Leu	Asp	Glu	Phe	Lys	Asn	Arg	Phe	Leu
65					70					75					80
Met	Ser	Ala	Glu	Ala	Phe	Glu	His	Leu	Lys	Thr	Gln	Phe	Asp	Leu	Asn
				85						90				95	
Ala	Cys	Ser	Ile	Asn	Gly	Asn	Ala	Pro	Ala	Glu	Ile	Asp	Leu	Arg	Gln
			100					105					110		
Met	Arg	Thr	Val	Thr	Pro	Ile	Arg	Met	Gln	Gly	Gly	Cys	Gly	Ser	Cys
		115					120					125			
Trp	Ala	Phe	Ser	Gly	Val	Ala	Ala	Thr	Glu	Ser	Ala	Tyr	Leu	Ala	Tyr
	130					135					140				
Arg	Asn	Gln	Ser	Leu	Asp	Leu	Ala	Glu	Gln	Glu	Leu	Val	Asp	Cys	Ala
145					150					155				160	
Ser	Gln	His	Gly	Cys	His	Gly	Asp	Thr	Ile	Pro	Arg	Gly	Ile	Glu	Tyr

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			20					25						30		
Phe	Asn	Lys	Ser	Tyr	Ala	Thr	Phe	Glu	Asp	Glu	Glu	Ala	Ala	Arg	Lys	
		35					40					45				
Asn	Phe	Leu	Glu	Ser	Val	Lys	Tyr	Val	Gln	Ser	Asn	Gly	Gly	Ala	Ile	
		50				55					60					
Asn	His	Leu	Ser	Asp	Leu	Ser	Leu	Asp	Glu	Phe	Lys	Asn	Arg	Phe	Leu	
65					70					75					80	
Met	Ser	Ala	Glu	Ala	Phe	Glu	His	Leu	Lys	Thr	Gln	Phe	Asp	Leu	Asn	
				85						90				95		
Ala	Glu	Thr	Asn	Ala	Cys	Ser	Ile	Asn	Gly	Asn	Ala	Pro	Ala	Glu	Ile	
			100					105					110			
Asp	Leu	Arg	Gln	Met	Arg	Thr	Val	Thr	Pro	Ile	Arg	Met	Gln	Gly	Gly	
		115					120					125				
Cys	Gly	Ser	Ala	Trp	Ala	Phe	Ser	Gly	Val	Ala	Ala	Thr	Glu	Ser	Ala	
	130					135						140				
Tyr	Leu	Ala	Tyr	Arg	Asn	Gln	Ser	Leu	Asp	Leu	Ala	Glu	Gln	Glu	Leu	
145					150					155				160		
Val	Asp	Cys	Ala	Ser	Gln	His	Gly	Cys	His	Gly	Asp	Thr	Ile	Pro	Arg	
				165				170					175			
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Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys		
210	215	220
Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile		
225	230	235
Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile		
245	250	255
Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr Ala Ala Val Asn Ile		
260	265	270
Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn		
275	280	285
Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala		
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Ala His Ser Ala Phe Ala Ala Asp Pro Arg Pro Ser Ser Ile Lys Thr		
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Phe Glu Glu Tyr Lys Lys Ala Phe Asn Lys Ser Tyr Ala Thr Phe Glu		
50	55	60
Asp Glu Glu Ala Ala Arg Lys Asn Phe Leu Glu Ser Val Lys Tyr Val		
65	70	75
Gln Ser Asn Gly Gly Ala Ile Asn His Leu Ser Asp Leu Ser Leu Asp		
85	90	95

Glu	Phe	Lys	Asn	Arg	Phe	Leu	Met	Ser	Ala	Glu	Ala	Phe	Glu	His	Leu
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Lys	Thr	Gln	Phe	Asp	Leu	Asn	Ala	Cys	Ser	Ile	Asn	Gly	Asn	Ala	Pro
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Gln	Gly	Gly	Cys	Gly	Ser	Cys	Trp	Ala	Phe	Ser	Gly	Val	Ala	Ala	Thr
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Glu	Ser	Ala	Tyr	Leu	Ala	Tyr	Arg	Asn	Gln	Ser	Leu	Asp	Leu	Ala	Glu
			165					170					175		
Gln	Glu	Leu	Val	Asp	Cys	Ala	Ser	Gln	His	Gly	Cys	His	Gly	Asp	Thr
		180						185					190		
Ile	Pro	Arg	Gly	Ile	Glu	Tyr	Ile	Gln	His	Asn	Gly	Val	Val	Gln	Glu
		195					200					205			
Ser	Tyr	Tyr	Arg	Tyr	Val	Ala	Arg	Glu	Gln	Ser	Cys	Arg	Arg	Pro	Asn
	210					215					220				
Ala	Gln	Arg	Phe	Gly	Ile	Ser	Asn	Tyr	Cys	Gln	Ile	Tyr	Pro	Pro	Asn
225				230						235					240
Ala	Asn	Lys	Ile	Arg	Glu	Ala	Leu	Ala	Gln	Thr	His	Ser	Ala	Ile	Ala
			245					250					255		
Val	Ile	Ile	Gly	Ile	Lys	Asp	Leu	Asp	Ala	Phe	Arg	His	Tyr	Asp	Gly
		260						265					270		
Arg	Thr	Ile	Ile	Gln	Arg	Asp	Asn	Gly	Tyr	Gln	Pro	Asn	Tyr	His	Ala
	275						280					285			
Val	Asn	Ile	Val	Gly	Tyr	Ser	Asn	Ala	Gln	Gly	Val	Asp	Tyr	Trp	Ile
	290					295					300				
Val	Arg	Asn	Ser	Trp	Asp	Thr	Asn	Trp	Gly	Asp	Asn	Gly	Tyr	Gly	Tyr
305				310						315					320
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			20					25					30		
Ala	His	Ser	Ala	Phe	Ala	Ala	Asp	Pro	Arg	Pro	Ser	Ser	Ile	Lys	Thr
			35				40						45		
Phe	Glu	Glu	Tyr	Lys	Lys	Ala	Phe	Asn	Lys	Ser	Tyr	Ala	Thr	Phe	Glu
	50					55					60				
Asp	Glu	Glu	Ala	Ala	Arg	Lys	Asn	Phe	Leu	Glu	Ser	Val	Lys	Tyr	Val
65					70					75					80
Gln	Ser	Asn	Gly	Gly	Ala	Ile	Asn	His	Leu	Ser	Asp	Leu	Ser	Leu	Asp
			85						90					95	
Glu	Phe	Lys	Asn	Arg	Phe	Leu	Met	Ser	Ala	Glu	Ala	Phe	Glu	His	Leu
			100						105				110		
Lys	Thr	Gln	Phe	Asp	Leu	Asn	Ala	Glu	Thr	Asn	Ala	Cys	Ser	Ile	Asn
		115					120					125			
Gly	Asn	Ala	Pro	Ala	Glu	Ile	Asp	Leu	Arg	Gln	Met	Arg	Thr	Val	Thr
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Pro	Ile	Arg	Met	Gln	Gly	Gly	Cys	Gly	Ser	Ala	Trp	Ala	Phe	Ser	Gly
145					150					155					160
Val	Ala	Ala	Thr	Glu	Ser	Ala	Tyr	Leu	Ala	Tyr	Arg	Asn	Gln	Ser	Leu
			165						170					175	
Asp	Leu	Ala	Glu	Gln	Glu	Leu	Val	Asp	Cys	Ala	Ser	Gln	His	Gly	Cys
		180						185					190		
His	Gly	Asp	Thr	Ile	Pro	Arg	Gly	Ile	Glu	Tyr	Ile	Gln	His	Asn	Gly
		195					200					205			
Val	Val	Gln	Glu	Ser	Tyr	Tyr	Arg	Tyr	Val	Ala	Arg	Glu	Gln	Ser	Cys
	210						215					220			
Arg	Arg	Pro	Asn	Ala	Gln	Arg	Phe	Gly	Ile	Ser	Asn	Tyr	Cys	Gln	Ile
225					230					235					240
Tyr	Pro	Pro	Asn	Ala	Asn	Lys	Ile	Arg	Glu	Ala	Leu	Ala	Gln	Thr	His
			245						250					255	
Ser	Ala	Ile	Ala	Val	Ile	Ile	Gly	Ile	Lys	Asp	Leu	Asp	Ala	Phe	Arg
		260						265					270		
His	Tyr	Asp	Gly	Arg	Thr	Ile	Ile	Gln	Arg	Asp	Asn	Gly	Tyr	Gln	Pro
		275					280					285			
Asn	Tyr	His	Ala	Val	Asn	Ile	Val	Gly	Tyr	Ser	Asn	Ala	Gln	Gly	Val

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Asp Tyr Trp Ile Val Arg Asn Ser Trp Asp Thr Asn Trp Gly Asp Asn				
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Tyr Pro Tyr Val Val Ile Leu				
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<212> DNA

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<400> 26

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<210> 28

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<400> 28

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75

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<213> Artificial Sequence

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<223> Primer

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67

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<212> PRT

<213> Artificial Sequence

<220>

<221> Mutant of DerP1

Asn Ala Glu Thr

1